

What is Claimed Is:

1. A traction cable actuator comprising:
 - a sun gear, having a lever;
 - at least two planetary gears engaged with said sun gear;
 - a housing having a toothed race engaging said planetary gears, said housing further having a lock spring seat, and said housing further having a traction cable sleeve seat;
 - a drive shaft operatively engaged with said sun gear to turn said sun gear, said shaft having at least one release tab;
 - a pulley disposed within said housing, said pulley having planetary gear axles, said axles being disposed to receive driving force from said planetary gears and said pulley having a traction cable wire seat;
 - a lock spring disposed to engage said lock spring seat in said housing and to engage said lever on said sun gear when said sun gear is turned;
 - whereby, said lock spring holds said pulley in a position selected by turning said drive shaft.
2. The actuator of claim 1 wherein said a gear ratio between said sun gear and said pulley is in the range of about 4.0 to about 4.5 to 1.
3. The actuator of claim 1 wherein said lock spring holds said pulley in position by expanding against said lock spring seat in a frictional engagement, and by a lock spring end abutting said lever of said sun gear.

4. The actuator of claim 1 wherein said release tab is disposed to abut an end of said lock spring such that rotation of said release tab compresses said lock spring in order to release it from a friction engagement with said lock spring seat.

5. The actuator of claim 1 further comprising a positive stop device.

6. An actuator stop for a traction actuation device comprising:
a bottom element, said bottom element having a substantially planar top side;
a top element, said top element having a substantially planar bottom side;
one of said top element or said bottom element being operatively engaged with a force applicator;

the other of said top side of said bottom element or said bottom side of said top element being operatively engaged with a force transfer assembly, said force transfer assembly being adapted to transfer force from said force applicator to a traction device;

said force transfer assembly having a range of travel;

a concavity in one of said top side of said bottom element or said bottom side of said top element;

a stopper between said top side of said bottom element and bottom side of said top element, said stopper being disposed to engage said concavity such that movement of said top element and said bottom element relative to one another is stopped, arresting said force transfer, substantially when said force transfer assembly is at an end of said range of travel.

7. The actuator of claim 6 wherein said force transfer assembly is a planetary gear assembly.

8. The actuator of claim 6 wherein said force applicator is manual.

9. The actuator of claim 6 wherein said force applicator is an electric motor.

10. The actuator of claim 6 wherein said traction device is a Bowden cable.
11. The actuator of claim 6 wherein at least one of said top element and said bottom element rotates.
12. The actuator of claim 6 wherein said concavity has length and has ends.
13. The actuator of claim 6 wherein said stopper is a bearing.
14. The actuator of claim 6 wherein said stopper is a convexity in the other of said top side of said bottom element or said bottom side of said top element from said concavity.
15. The actuator of claim 6 wherein said concavity is a groove.
16. The actuator of claim 6 wherein said concavity is a spiral groove.
17. The actuator of claim 6 wherein said concavity is a spiral groove having substantially between 720° and 1,440° of rotation.